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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/674,805

09/29/2003

Milton W. Demaray

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06/30/2006

GALLAGHER & LATHROP, A PROFESSIONAL CORPORATION

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EXAMINER

SUN, SCOTT C

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,805

Applicant(s)

DEMARAY ET AL.

Examiner

Scott Sun

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/6/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1/30/04

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 11-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically, the claims are directed to medium/means that, according to the specification (page 17, alternative implementations), include "base band or modulated communication paths throughout the spectrum including from supersonic to ultraviolet frequencies". Current interim guidelines states that signals are not statutory subject matter. It is suggested that the claims be amended to recite a "storage medium".

3. Claims 1-30 are rejected because the claims lack practical application. Specifically, the claims are directed towards obtaining data and establishing data relationships. However, data and manipulation of data, per se, do not provide a useful, concrete, and tangible result. It is suggested that the claims include some practical application, such as providing a copy of the data for disaster recovery, as disclosed in the specification.

4. To expedite a complete examination of the instant application, the claim(s) rejected under 35 USC 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Mimatsu et al (PG Pub # 2004/0111485).

7. Regarding claim 1, Mimatsu discloses in a system (figure 1) comprising a first computer (host computers 1101 paragraph 34) coupled to one or more controllers (disk controllers 1404), wherein each controller is coupled to one or more of a plurality of recording devices (storage units 1405, 1406, 1505, 1506), a method that comprises: obtaining a first map (disk volume management table) that provides a cross-reference between a hardware address (LUN 3103, WWN 3102) for a respective recording device and a first device identifier (disk volume identifier 3106) that is associated with the respective recording device, wherein the first device identifier represents the respective recording device to programs executing in the first computer and the hardware address identifies the respective recording device and the controller to which it is coupled (paragraph 51, 53); obtaining a copy-group definition (virtual volume, paragraph 59) of a copy group that specifies a copy-group identifier (virtual volume number) and specifies one or more pairs (disk volumes) of the recording devices assigned to the copy group

by information other than first device identifiers (port WWN, LUN, paragraph 56); and establishing in response to the first map and the copy-group definition a copy-group map (virtual volume table, figure 2) that provides a cross-reference between the copy-group identifier and the first device identifiers of the one or more pairs of recording devices assigned to the copy group (figure 2; paragraph 50).

8. Regarding claim 2, Mimatsu discloses claim 1 and further discloses receiving a first input (mode select, mode sense instructions, paragraph 51) specifying one or more first device identifiers; obtaining one or more hardware addresses in response to the first input; and establishing the first map by associating the one or more hardware addresses with one or more first device identifiers (paragraph 51).

9. Regarding claim 3, Mimatsu discloses claim 2, and further discloses the first computer receives the first input and, in response, sends one or more commands (command 8101) to a respective controller (paragraph 46); the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by interrogating either or both of control information in the respective controller and recording devices coupled to the respective controller, and sends the obtained hardware addresses to the first computer; and the first computer establishes the first map (paragraphs 53).

10. Regarding claim 4, Mimatsu discloses claim 3, and further discloses the first computer comprises a channel subsystem (fibre channel interface 1102) that controls transfers of data between the first computer and one or more recording devices coupled to the respective controller; the first computer is coupled to the respective controller by a

first data communication path (fibre channel cables 1314) that is a channel path coupled to the channel subsystem; the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and hardware addresses obtained by the respective controller are conveyed to the first computer through the first data communication path as one or more responses to the channel program (paragraph 34).

11. Regarding claim 5, Mimatsu discloses claim 3 and further discloses, wherein the respective controller determines whether a respective recording device is capable of responding to a query command (inquiry command, paragraph 51) and returns the hardware address of the respective recording device only if the respective recording device is capable of responding to the query command. Examiner notes that if recording device does not respond to the inquiry command, it will not provide the information requested.

12. Regarding claim 6, Mimatsu discloses claim 1 and further discloses wherein each of the plurality of recording devices has a recording medium with a medium identifier that identifies the recording medium (device identifier 3106), and the first map also provides a cross-reference between medium identifiers and either or both of hardware addresses and first device identifiers for respective recording devices (figure 3), and wherein the method comprises: establishing the copy-group map also to provide a cross-reference between the copy-group identifier and the medium identifiers for the one or more pairs of recording devices assigned to the copy group (paragraph 50).

Examiner notes that Mimatsu teaches that identifiers (serial numbers) are also includes with the volume number entry.

13. Regarding claim 7, Mimatsu discloses claim 1 and further discloses, wherein the system comprises a second computer (computer 1201) coupled to one or more controllers of which at least one of the controllers is coupled to one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group (figure 1), the method comprising: obtaining a second map that provides a cross-reference between the hardware address of the respective recording device and a second device identifier that is associated with the respective recording device, wherein the second device identifier represents the respective recording device to programs executing in the second computer; and establishing the copy-group map also to provide a cross-reference between the copy-group identifier and the second device identifiers of the one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group (paragraphs 57, 58). Examiner notes that Mimatsu teaches that the volumes are used by both computers. Therefore the mappings are performed for both computers.

14. Regarding claim 8, Mimatsu discloses claim 7 and further discloses receiving a second input specifying one or more second device identifiers; obtaining one or more hardware addresses in response to the second input; and establishing the second map by associating the one or more hardware addresses with the one or more second device identifiers. Examiner notes that the claim state limitations similar to those of claim 2, except the functions are performed for the second computer. As cited above,

the functions for both host computers are the same. Accordingly, the corresponding functions are also performed for the second computer.

15. Regarding claim 9, Mimatsu discloses claim 8 and further discloses wherein: the second computer receives the second input and, in response, sends one or more commands to a respective controller; the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by interrogating either or both of control information in the respective controller and recording devices coupled to the respective controller, and sends these obtained hardware addresses to the second computer; and the second computer establishes the second map. Examiner notes that the claim state limitations similar to those of claim 3, except the functions are performed for the second computer. As cited above, the functions for both host computers are the same. Accordingly, the corresponding functions are also performed for the second computer.

16. Regarding claim 10, Mimatsu discloses claim 9 and further discloses: the second computer comprises a channel subsystem that controls transfers of data between the second computer and one or more recording devices coupled to the respective controller; the second computer is coupled to the respective controller by a second data communication path that is a channel path coupled to the channel subsystem; the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and hardware addresses obtained by the respective controller are conveyed to the second computer through the second data communication path as one or more

responses to the channel program. Examiner notes that the claim state limitations similar to those of claim 4, except the functions are performed for the second computer. As cited above, the functions for both host computers are the same. Accordingly, the corresponding functions are also performed for the second computer.

17. Regarding claims 11-30, examiner notes that the claims are substantially similar to claims 1-10, differing only in statutory category. The same grounds of rejection are applied.

18. Other publications are cited to further show the state of the art with respect to data-copy mapping. Refer to form 892, "Notice of References Cited", for a complete list of relevant prior arts cited by the examiner.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Sun whose telephone number is (571) 272-2675. The examiner can normally be reached on M-F, 10:30am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SS

6/24/2006



KIM HUYNH
SUPERVISORY PATENT EXAMINER
6/27/06